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Forest Insect Laboratory

Ogden, Idaho

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Author James C. Evenden
Senior Entomologist

TITLE

WESTERN PINE BEETLE INFESTATION
WYISER NATIONAL FOREST

(Memorandum to Regional Forester, Ogden, Utah)

SUBJECT-

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Forest Insect Laboratory
Coeur d'Alene, Idaho

October 22, 1942

To: Regional Forester, Ogden, Utah

From: James C. Evenden, Senior Entomologist, Coeur d'Alene, Idaho

Subject: Western Pine Beetle Infestation, Weiser National Forest

At the request of the Regional Forester an examination of a reported western pine beetle (Dendroctonus brevicornis Lec.) infestation in the Warm Springs Creek area of the Weiser National Forest was made on October 12, 1942. I was accompanied on this examination by Mr. H. L. Ketchie of the Weiser National Forest personnel, whose knowledge of the area and the location of this year's infestation was of great assistance to me.

The Area

The area of commercial timber within this drainage is northeast of Starkey, Idaho, and mostly in sections 23 and 26, T. 18 N., R. 1 W. Topography is of a gentle rolling character, which becomes more severe as the drainage drops towards the Weiser River. The soil has a lava foundation with numerous rocks, rock outcroppings, and some ledges. In the gulches and ravines the soil is obviously deeper than on the slopes, as evidenced by the forest growth. The actual size of the area examined is not known, but I would consider that there were not more than 1000 acres involved.

Timber Stand

Upon the area in question there is a fine stand of ponderosa pine which varies from a pure stocking to a mixture of pine and Douglas fir in the upper and lower ends of the drainage. Along the creek and immediate slopes there are pure stands of pine averaging 12,000 B.F. per acre, while on the broad ridge tops the pine is quite scattered with only a few trees per acre. These scattered trees are large (36-48 inches d.b.h.) and may be older than the general average of the stand, which is from

220-240 years. In most all openings there are good stands of reproduction which in the mixed types are predominantly Douglas fir. There is also the usual underbrush found in all such timber stands.

In the heavily stocked areas the pine is quite well spaced, with some trees of course showing the effects of overcrowding. A good degree of tree vigor is indicated by the crowns and foliage, regardless of the fact that there has been a marked slowing down of radial growth during the past 40 to 50 years. Although this stand of timber can properly be considered as being economically mature, only a small percent of the trees would be classed as overmature or susceptible to bark beetle attack. There are of course scattered trees which are obviously decadent and which are or will soon become susceptible to bark beetle attack.

Insect Situation

As we desired to determine the seriousness of the reported infestation, our examination was confined to a general extensive reconnaissance of the area rather than obtaining some actual data from sample strips. This procedure enabled us to cover a larger acreage and to obtain good views of the area. Nearly all discolored trees were examined to determine the relation of foliage color to the 1942 attack of the western pine beetle. As it was found that the foliage of all such trees was discolored, it is believed that we actually saw and visited a large percent of this season's infestation. This discoloration varied with the age of attack and ranged from a dull brown (1st generation attack) to a light sorrel (2nd generation attack). Although western pine beetle broods (1942 attacks) were found in the base of red-topped trees which had been top-killed in 1941, this condition was not serious, as all red-topped trees were checked to determine its frequency.

In this area there has been a rather constant loss of trees during the past years. This fact is evidenced by old, scattered snags, which represent a loss of some 15 to 20 years. The removal of insect-killed trees along the roadway by wood cutters eliminates the complete picture as to past losses or the 1942 infestation. It was estimated that 6 or 8 newly attacked trees had already been removed during the present season.

In that portion of the area where the road first enters the timber, there has been scattered loss of pine, with some groups of 6 to 12 trees which were killed in 1940 and 1941. It is rather evident that the loss during that period was more severe than at the present time. A large percent of the insect brood in some of the 1941-attacked trees had been destroyed by woodpeckers. Adult emergence from the 1941-attacked trees was not at all heavy, indicating that the present season's loss should be lighter than that of 1942. Two large trees were examined that showed attacks of "flatheads" (Buprestids) in the base.

In the logged areas in the vicinity of the sawmill the loss of pine has been somewhat heavier. On the hillside to the east of the mill some 15 percent of the trees, which were apparently left as a source of seed supply, have been killed in the past season or two. In this area there are several scattered attacks of the western pine beetle, one group of six trees, and perhaps an equal number of trees which have been top-killed during the 1942 season. The insect responsible for this top-killing is not known, but it could be either Ips oregoni or the western pine beetle. There were several trees top-killed in 1941, with basal attacks of the western pine beetle in 1942. When top-killing includes the entire crown, a sour-sap condition occurs in the base, which is seldom attacked by the western pine beetle. Several of these trees were in evidence.

Large broods of the Oregon pine engraver (Ips oregoni) and some western pine beetles have emerged from cull logs and tops distributed throughout the cut-over areas. We often fail to recognize the potentials of the damage that can occur in ponderosa pine from sporadic or irregular cutting practices usually associated with the operation of small mills. Under favorable conditions large broods of Ips oregoni develop in such attractive breeding material and upon emergence often attack pine reproduction or the tops of larger trees. However, slash can not be considered as the complete answer to the loss in these areas. The severe cutting made rather drastic changes in the forest environment, and it is possible that this "shock" left many trees in a condition susceptible to bark beetle attack.

Recommendation

I do not consider the situation described as warranting the institution of artificial control. If possible it would be advisable to have the 1942-attacked trees which are adjacent to the road--and most of them are--either cut for wood or for lumber, and the slabs or bark burned. It is recommended that this area be rechecked in 1943 to determine the status of the infestation at that time.

Two copies of this memo have been sent to the Weiser National Forest, and two copies to Dr. F. C. Craighead of our Washington office (one of these for transmittal to the Forester).

James C. Evenden